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ABSTRACT

This needs assessment investigated current and optimal levels of information literacy among faculty members at South Georgia College (SGC). Each faculty member was asked to complete a 10-question closed-ended survey to determine the overall information literacy of SGC's faculty based upon qualitative analysis. Then, six faculty members, two from each of the three major divisions on campus, were randomly selected and asked to participate in an in-depth interview to provide the qualitative analysis of the needs assessment. Data showed that, on average, faculty at SGC were performing at an acceptable level of information literacy. Both survey and interview data supported this. However, several intriguing results surfaced, as did a few problems in the design of the instruments. The survey produced the finding that faculty members still prefer traditional printed resources for gathering information, probably because most still use lesson plans that were developed before electronic resources were popular or available. However, the first place faculty would look today for finding supplemental information is not traditional printed resources but electronic resources. The survey findings also revealed that the majority of participants do not know the laws and ethical standards associated with copyright on the Internet. Furthermore, most faculty members surveyed believed that even if specific technology were made available, a teacher would continue to rely on traditional means of information gathering. The greatest design flaw in the survey was that several participants could not speculate on general questions that asked them to rate the information literacy of all faculty. The most surprising issue revealed by the in-depth interviews was that most participants were able to distinguish between technology literacy and information literacy, even though the interview did not discuss technology literacy. A majority of participants agreed that a teacher's use of technology in course instruction does not necessarily reflect his or her knowledge of information literacy. Only four of the Information Literacy Standards used to rate participants' responses were addressed in the interview questions, a huge oversight on behalf of the instrument designer. (Author/AEF)

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Information Literacy in Higher Education: Is There a Gap?

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Abstract

Before a student can become information literate, he or she must be taught information literacy skills. Higher education cannot produce information literate students if it does not first have information literate teachers. The purpose of this needs assessment was to investigate the current and optimal levels of information literacy among the faculty members at South Georgia College. A few key questions this assessment answers are: What is the current state of information literacy among SGC faculty? What is the optimal state of information literacy among SGC faculty? For those faculty members who are information literate, what technology are they using to demonstrate information literacy in their instruction? For those faculty members who do not use technology for gathering and presenting data in their course instruction, what are the reasons for why they do not? How can those who are not information literate be brought up to proficiency? How can those who are information literate help those who are not?

South Georgia College is a two-year public college under the University System of Georgia. Average student enrollment for SGC is between 1,200 - 1,250 students. There are 41 full-time faculty members who teach at the college. Only full-time, teaching faculty members from the major academic divisions on campus were considered as subjects for research. Each faculty member was asked to complete a closed-ended survey of ten questions to determine the overall information literacy of SGC's faculty based upon qualitative analysis. Then, six faculty members, two from each of the three major divisions on campus, were randomly selected and asked to participate in an in-depth interview to provide the qualitative analysis of the needs assessment.

The two instruments used to conduct the research were in-depth interviews and a closed-ended survey. The closed-ended survey asked objective, general questions concerning the perceived current and optimal levels of information literacy among SGC faculty, the needs of those who are information literate and the needs of those who are not, and the causes for why a gap exists between the current and optimal levels of information literacy among the faculty. The in-depth interviews were conducted after the surveys were tallied. The interviews focused on gathering subjective data from participants. The interview questions dealt mainly with measuring the gap between the current and optimal levels of information literacy among SGC faculty, identifying areas of concern for those faculty who are using technology as well as for those who are not, and soliciting support from those faculty members who are information literate to help bring those who are not up to task.

From the data collected, on average, the faculty at SGC were found to be performing at an acceptable level of information literacy. Both the survey and interview data supported this. However, several intriguing results surfaced, as did a few problems in the design of the instruments. The survey produced the finding that faculty members still prefer traditional printed resources for gathering information, probably because most still use lesson plans that were developed before electronic resources were popular or available. However, the first place faculty would look today for finding supplemental information is not traditional printed resources but electronic resources. The survey findings also revealed that the majority of participants do not know the laws and ethical standards associated with copyright on the Internet. Furthermore, most faculty members surveyed believed that even if specific technology were made available, a teacher would continue to rely on traditional means of information gathering. The greatest design flaw in the survey was that several participants could not speculate on general questions that asked them to rate the information literacy of all faculty. Academic Freedom is highly upheld in post secondary education; thus, participants did not want to guess at what their colleagues did in their classrooms because they truly do not know. The instrument designer did not consider this at the time the survey was created.

The most surprising issue revealed by the in-depth interviews was that most participants were able to distinguish between technology literacy and information literacy, even though the interviewer did not

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discuss technology literacy. A majority of the participants agreed that a teacher's use of technology in course instruction does not necessarily reflect his or her knowledge of information literacy. The in-depth interviews were not without flaw either. Only four of the Information Literacy Standards used to rate participants' responses were addressed in the interview questions. This was a huge oversight on behalf of the instrument designer.

In conclusion, several steps could be taken to help faculty members become even more information literate. One possible solution was addressed in the in-depth interview results. Several subjects said that on-campus conferences and workshops involving technology used to gather information would certainly help them. An inexpensive solution would be to hold periodical teaching circles in which a group of teachers from various disciplines convene once a month to discuss how they gather information and use it in their course instruction. This would be the most feasible solution to the problem. A third solution would be for the administration to promote the scholarship of teaching, which would include the exercise of information literacy skills. Through course instruction improvements, faculty members can begin to vie for specific grants and fellowships that reward those who excel in the scholarship of teaching.

Introduction

Several college faculty members have incorporated technology and various forms of up-dated information systems into their course instruction. However, for every faculty member who has up-dated his or her delivery methods, there is a faculty member who continues to utilize the methods associated with stale tradition. Interactive web pages, PowerPoint slides, and the Internet are specific technologies that faculty members are - or are not - using in lieu of textbooks, chalkboards, and printed materials to present new ideas on how to retrieve and deliver information to their students. The resulting gap is very clear, some faculty members are quite information literate in terms of electronic resources and some are not; nevertheless, all should be information literate to a certain extent.

Located in Douglas, Georgia, South Georgia College became part of the University System of Georgia in 1932. One of its primary missions is to promote the scholarship of teaching via the latest technology and instructional designs available. Within the past three years, two computer-based classrooms have been added to the campus to help promote teaching with the use of technology. Today, SGC has a total of three model classrooms used by a variety of faculty members to teach their subjects, such as psychology, history, and physics. Average student enrollment for is between 1,200 - 1,250 students. There are 41 full-time faculty members who teach at the college.

The Information Literacy Competency Standards for Higher Education, approved by the Association of College and Research Libraries in January 2000, provides a list of standards, performance indicators, and outcomes that define what the information literate student must be capable of achieving. The information literate student must be able to analyze what information is needed, as well as what information is and is not appropriate for the purpose involved. He or she then must know how to retrieve the information either individually or with a group for accomplishing a specific purpose (ACRL, 2000). However, before the student can become information literate, he or she must be taught information literacy skills. That is where the faculty member's information literacy comes into question. Higher education cannot produce information literate students if it does not first have information literate teachers (Roth, 1999).

Not only will this needs assessment be beneficial to the specific clients involved, it will also contribute to research within the scholarship of teaching. Similar two-year institutions can use this study as an example for conducting research at there own institutions. They can implement the recommendations from the results of this needs assessment at their institutions without having to conduct a formal needs assessment of their own. Finally, several new questions and needs emerged from the results of this research, such as the need for faculty members at South Georgia College to become better aware of the ethics and copyright laws associated with using materials from the Internet for instruction. The conductors of this needs assessment could certainly continue their research in more depth at South Georgia College; other assessors could continue this type of research at their schools as well.

A few key questions this assessment answers are: What are the standards that will determine who is information literate and who is not? What is the current state of information literacy among SGC faculty? What is the optimal state of information literacy among SGC faculty? For those faculty members who are information literate, what technology are they using to demonstrate information literacy in their instruction? For those faculty members who do not use technology for gathering and presenting data in their course instruction, what are the reasons for why they do not? How can those who are not information literate be brought up to proficiency? How can those who are information literate help those who are not?

Methods

South Georgia College consists of 41 faculty members from various academic backgrounds. Only full-time, teaching faculty members from the major academic divisions on campus were considered as subjects for research. All academic faculty members were asked to complete a survey. Six faculty members, two from each of the four major divisions on campus, were randomly selected and asked to participate in an interview. Those divisions included the Division of Humanities and Learning Support, Division of Business and Social Sciences and Division of Science and Mathematics.

The two instruments used to conduct research were in-depth interviews and a closed-ended survey. The closed-ended survey consisted of general questions designed to validate the issues, needs and causes of the needs assessment. In other words, the survey asked objective, general questions concerning the perceived current and optimal levels of information literacy among SGC faculty, the needs of those who are information literate and the needs of those who are not, and the causes for why a gap exists between the current and optimal levels of information literacy among the faculty. The in-depth interviews were conducted after the surveys were tallied. The interviews focused on gathering subjective data from participants. The interview questions dealt mainly with measuring the gap between the current and optimal levels of information literacy among SGC faculty, identifying areas of concern for those faculty who are using technology as well as for those who are not, and soliciting support from those faculty members who are information literate to help bring those who are not up to task.

The procedures for developing and conducting research consisted of several steps. First, permission from the Vice President of Academic Affairs to conduct research on the campus of South Georgia College was obtained. Each interview subject signed a written consent form before participating in this study. Finally, permission from the VSU Institutional Review Board for the Protection of Human Subjects in Research and Research Related Activities was obtained before carrying out this needs assessment.

Next, the standards used to represent the optimal level of information literacy among SGC faculty were developed. These standards were adopted from the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education (ACRL, 2000). Although these standards and performance indicators are relative to the students of higher education, they also apply to teachers of higher education since it is the teachers who must teach the students how to be information literate. Thus, the Faculty Information Literacy Standards for assessing the optimal level of information literacy among SGC faculty were designed from those proposed for students by the ACRL. Those standards include the following - Standard I: The information literate teacher determines the nature and extent of the information needed; Standard II: The information literate teacher accesses needed information effectively and efficiently; Standard III: The information literate teacher evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system; Standard IV: The information literate teacher, individually or as a member of the a group, uses information effectively to accomplish a specific purpose; and Standard V: The information literate teacher understands many of the economic, legal, and social issues surrounding the use of the information and accesses and uses information ethically and legally. The specific objectives that accompany each benchmark are those same objectives that can be found on the ACRL's web site for the student Information Literacy Competency Standards for Higher Education.

After gathering research, the data from the interviews was compared to these standards to assess which faculty members are information literate and which are not. Each subject's interview was rated to determine how information literate those faculty interviewed were on a scale of one to five, one being "Optimal Level of Information Literacy" and five being "No Level of Information Literacy."

After the standards were set for assessing the optimal level of information literacy, the instruments were designed and developed. The in-depth interview questions were developed from a sample interview outlined in Chapter 3, Appendix B, of *The User-Friendly Handbook for Mixed Method Evaluation.* The closed-ended survey was developed from the format of a sample instructor evaluation used by the Division of Business and Social Sciences at South Georgia College.

The first instrument distributed was the closed-ended survey. Through campus mail, it was delivered to all fulltime, academic faculty members. The survey focused on more general and objective data that pertained to the information literacy perceptions of all faculty members from the various academic disciplines on campus. A memo from the Vice-President of Academic Affairs accompanied the survey, asking all faculty to participate in this research endeavor. A statement at the top of the survey explaining the purpose of the research ensured that the subjects knew the validity and confidentiality of the data retrieved. Each subject was asked to complete the survey and return it once they had answered all the questions. The data from all surveys were tallied using an Excel spreadsheet.

Six faculty members, roughly 15% of the faculty population, were randomly selected to interview. One interviewee was from each of the following academic areas: mathematics, sciences, Humanities, learning support,

business and social sciences. Before administering the interview, each participant completed a consent form so they fully understood the confidentiality of the interview. All interviews but one was tape-recorded. The interviews were not documented verbatim, but rather documented through the "note expansion" method of data collection. The tape recordings were only used for clarity and backup. The data from all interviews were complied using a spreadsheet in Microsoft Excel.

The information found from the survey was complied using the program Microsoft Excel. First, all responses from the survey were entered into an Excel spreadsheet. Each survey question was typed into the spreadsheet with each subject's response listed in columns running along side the corresponding questions. The closed-ended questions on the survey easily allowed the options of "Strongly Agree," "Agree," "Disagree," and "Strongly Disagree" to be translated into a scale of one to four, one representing "Strongly Agree" and four representing "Strongly Disagree." After the surveys were conducted, a rating of five, which stood for, "Don't Know," was included since some participants wrote this answer in. The ratings for each question were averaged, establishing an overall rating for each question.

The data collected from the interviews were compiled and analyzed in much the same way as the survey. The interview questions were documented in a spreadsheet and all responses from those interviewed were typed into columns running side-by-side next to the corresponding question. This allowed for the answers given to a particular question to be seen at once for easy comparison to the standards. Each interview was rated on a scale of one to five, one representing "optimal level of information literacy" and five representing "no level of information literacy." Finally, the overall rating for each interview was averaged to find the mean of all the interviews. This helped establish an information literacy rating for the entire faculty. This information was then compared with the results found from the survey data. Our hypothesis was that the general consensus of the survey would match the subjective observations of the interviews to provide an objective conclusion concerning the optimal and current levels of information literacy among the faculty of SGC.

Results

Out of all surveys administered, 18 were returned. The responses of the surveys were tallied and the results placed in an Excel spreadsheet. Each subject's response was tallied according to a rating; then each question received an average rating that allowed us to conclude our results.

Several intriguing results surfaced, as did a few problems in the design of the survey questions. On questions one (Information literacy is the ability to recognize when information is needed, then locate, evaluate and use that information effectively to fulfill the need. Given this definition of information literacy, at least 60% of SGC faculty are information literate.), two (Given the definition of information literacy stated above [in question one], you consider yourself to be information literate.), seven (All academic information obtained from the Internet does not need to be considered under copyright; it is available for all to use freely.), and nine (Faculty members who do not demonstrate information literacy in their course curriculum should attend workshops or activities to learn how to do so.), we received the expected outcome that we had hoped for. We had hypothesized that an average of the participants would have agreed that the majority of his or her colleagues, as well as him or herself, were information literate. We had also expected that an average of the participants would have disagreed on the issue of all academic information obtained from the Internet not being considered under copyright. Finally, we also anticipated that the average answer would be, "Agree," when the participants were asked if faculty members who are not information literate need to attend workshops or activities to learn how to become information literate.

The other questions proved to have differing results from what we had expected. Question three asked participants if multimedia, electronic databases, and web sites were the primary media used by faculty to demonstrate information literacy in their course curriculum. The average answer was "Disagree." We concluded that this finding suggests faculty members still prefer traditional printed resources to gain information, probably because most still use lesson plans that were developed before electronic resources were popular or available. This finding concurred with the results of our interviews as well. However, our results from question six (The first place you would look to find supplemental information on your academic subject would be to obtain printed materials, such as books, journals, and magazines, from the school library.) showed that "the tides are beginning to turn." The average answer to this question was, "Disagree." This means that the first place faculty would look for finding supplemental information is not traditional printed resources but rather non-traditional resources, e.g. electronic resources. As for whether they would recommend a web site to their students as the first place to find supplemental material for the course, question eight, the average response was barely "Agree" – 2.44. This proved that some teachers would have immediately recommended a web site and others would not have done so.

Questions four and five yielded a great deal of controversy since several people wrote in answers of, "Don't Know," or "Problematic question," rather than answering. We believe that this confusion on question four - which asks if a faculty member uses on-site library and printed resources in his or her instruction, he or she is information literate - could have resulted from a design flaw in the survey. Participants may have thought from the previous three questions that information literacy only deals with technology. If question five - combining both printed and electronic media to yield the most information literate teacher - had come before question four, we believe more accurate results would have emerged for question four.

The greatest design flaw that we found from the survey was that several participants answered, "Don't Know," to questions one, three, four, and seven. These questions asked the participant to answer based on generalizations concerning the entire faculty. We felt that because Academic Freedom is highly upheld in post secondary education, those participants who answered, "Don't Know," did not want to guess at what their colleagues did in their classrooms because they truly do not know. The questions should have been reworded to ask the participants what they did in their own course instruction, not to generalize for the entire target population. This held true for all these questions except question seven. Subjects responded, "Don't Know," to this question because they truly do not know the laws and ethical standards associated with copyright on the Internet.

The most significant discovery from the survey results was that the average answer for question ten - whether or not those teachers who are not information literate would become more information literate if they had better access to technology – was, "Disagree." This showed that most of those faculty members surveyed believe that even if specific technology were made available, a teacher would either continue to rely on traditional means of information gathering or that technology has no effect on how information literate one is.

The interviews were conducted within the span of one week. The following questions were asked of each participant - Question one: What types of resources do you use to gather information? Question two: How do you use technology to gather information? (If you do not use technology to gather information, why not?) Question three: Do you think a teacher's use of technology in course instruction reflects knowledge of information literacy? Why or why not? Question four: What methods of information retrieval are best suited for your course instruction? Question five: What methods of information retrieval would you suggest to students for finding additional information for your course? Question six: What programs or activities do you think would help you become more information literate? Would technology be a part of those programs or activities?

The results from the In-depth Interviews supported some of the findings from the survey in greater detail. The average interview rating was 2.83, which ranked the average participant as being "Average Level of Information Literacy." We found that to be a very positive result from the interviews. However, two interviewees ranked as being, "Above Average," three ranked as, "Average," and one ranked as being, "Below Average." After having compared the participants' answers to the Faculty Information Literacy Standards devised for this needs assessment, we ranked them according to the rating scale. The main areas that kept some interviewees from ranking higher were in Standard I where they did not show that they used a variety of types and formats of potential resources for information, particularly electronic resources. For example, the three subjects who ranked "Average" drew most of their resources from printed information, such as library databases, reference books, and textbooks. Very few electronic resources were used by these three subjects for gathering information. Two participants showed competencies in all areas of the standards while one person only showed competency in one standard – Standard IV. Subject #3 did not use a variety of resources (Standard I), did not retrieve information online or in person using a variety of methods (Standard II), and did not compare new knowledge to determine the value added, contradictions, or other unique characteristics of the information (Standard III). He relied mostly on his textbooks for all information gathering. This type of observation is also seen in the survey results on a more general scale.

Only four of the Standards were used when comparing the participants' answers to the standards since none of the interview questions related to Standard V. This was a huge oversight on the part of the instrument designers. All other questions related to Standards I-IV, but no questions asked interviewees about their understanding of copyright or ethical use of information gathering. However, Subject #5 did volunteer that she would like to have programs or workshops to learn more about copyright laws as part of her answer to question six. This participant's interview rating was "Above Average Level of Information Literacy."

Several positive findings did emerge from the interviews, particularly in the answers to questions three and six. Most subjects answered question three with a clear understanding between being technology literate and information literate, even though technology literacy was not discussed by the interviewer. Question three asked whether or not a teacher's use of technology in course instruction reflects his or her knowledge of information literacy. A majority of participants stated, "Not necessarily," and went on to explain why. Subject #6 gave the best example, "For example, you may know how to use PowerPoint but not know how to find information on the subject for the presentation." This was one of the greatest discoveries from the interview results. Question six yielded a

great deal of possible workshops or activities that could be implemented as part of the solution to this needs assessment.

Summary and Recommendations

The purpose of this needs assessment was to investigate the current and optimal levels of information literacy among SGC faculty members. In other words, a gap existed between how faculty members currently gather information and how they should be gathering information. The data collected and analyzed for this assessment showed how faculty members are gathering information. The Faculty Information Literacy Standards, adopted from the ACRL's Information Literacy standards, shows the assessors how SGC faculty members should be gathering information. We believe that from the data collected, on average, the faculty members at SGC are performing at an acceptable level of information literacy. However, several steps could be taken to help the majority of faculty members become even more information literate.

One possible solution was addressed in the In-depth Interview. Interviewees were asked what programs or activities might help them become more information literate and would technology be a part of those programs or activities. Several subjects said that conferences and workshops involving particular types of technology would certainly help them. For example, one person would be interested in further Galileo training, two would like to learn more about how to retrieve information from the web and research using the Internet, yet another would like to explore how online chats can be used to hear and write Spanish.

One workshop that was highly recommended is one that was posed by Subject #5 from the Interview – programs or workshops to learn about copyright laws on the Internet. From both the survey and interview results, this is one area of the Information Literacy Standards that the SGC faculty members do not know nor understand. Knowing copyright and ethical laws concerning what to use and how much of it to use from the Internet and World Wide Web in course instruction is certainly a paramount issue vis -à-vis information literacy. These workshops do not have to be expensive or lengthy in time. As Subject #6 suggested in his interview, brown bag workshops held during lunch could be provided on campus by librarians or those faculty members considered highly information literate to help bring others up to task. To encourage participation, door prizes could be given out at the beginning of the sessions or a brown bag lunch be provided by the school for those who do come.

Another inexpensive solution to bridging the gap between the current and optimal states of information literacy among faculty would be to hold periodical teaching circles in which a group of teachers from various disciplines come together once a month to discuss how they gather information and use it in their course instruction. This could also be done during a lunch hour in which the teachers go out to a favorite restaurant or bring a brown bag lunch. Not only would teaching circles promote information literacy, but it would also promote camaraderie among the faculty members. This would, in turn, provide a solid networking foundation for faculty members to pull upon each other as resources. It would also help expose all faculty members to a variety of up-to-date information search methods. This would be the most feasible solution to implement.

A third solution that would help teachers become more information literate at SGC would be for the administration to make the scholarship of teaching an even higher priority than what it is now. This could be relatively inexpensive for the school depending on the help from administrators and division chairpersons. The scholarship of teaching would deal with faculty members making a conscious effort to improve their course delivery methods and up-date their information literacy to make teaching a valid area of research. Through course instruction improvements, faculty members can begin to vie for specific grants and fellowships that reward those who excel in the scholarship of teaching. However, this will require that the administration support a faculty member's endeavors and provide him or her with the necessary means of improving course delivery. This could include buying or providing up-dated technology or paying for particular off-campus workshops or grant writing conferences.

In conclusion, a more in-depth needs assessment should be conducted in the area of information literacy at SGC. The needs assessment conducted here was extremely small in scale and uses instruments flawed in design. Although the majority of results obtained are valid, further investigation in this area would bring about more accurate results. Therefore, more information does need to be gathered, not only from the perspective of the faculty, but also from the perspectives of the administration and the students. If objective and thorough research is to be found, more subjects need to be interviewed and surveyed, and a wider variety of instruments need to be used for finding data.

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